SCHNELLECKE

Insights into the Schnellecke Group

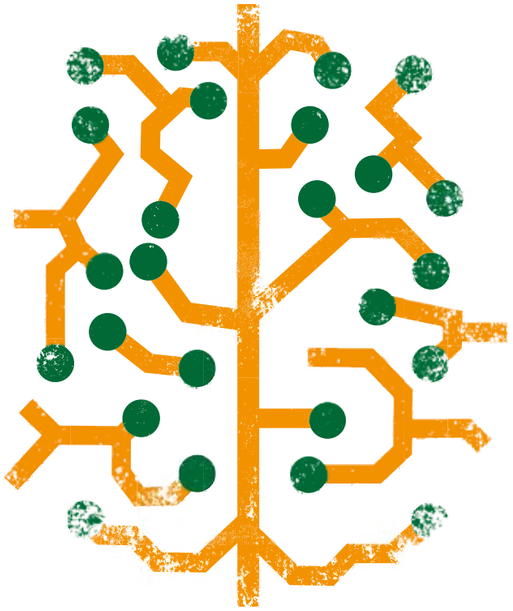
2018.1

BOXES ON COURSE

Internet of Things: Communicating containers

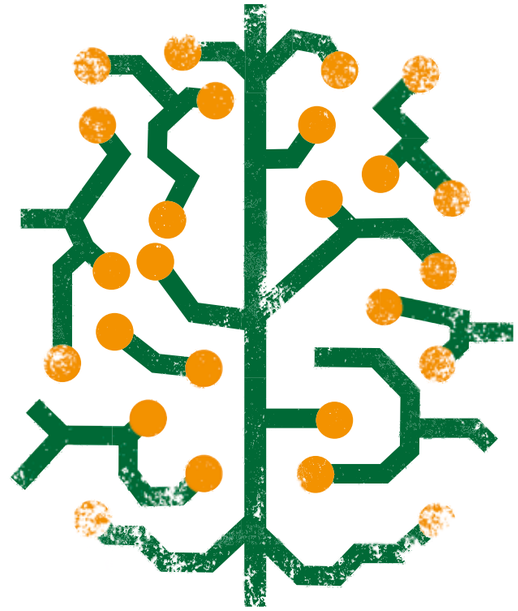
FROM DRESDEN TO THE WORLD
KWD: Components for safe mobility

VIVA ESPAÑA!
Schnellecke in Spain: A visit to Barcelona and Pamplona



The Internet of Things (IoT) is a collective term for technologies of a global infrastructure of IT companies which make it possible to network physical and virtual objects and to enable them to work together through information and communication technologies.

Source: Wikipedia



With a trillion sensors embedded in the environment — all connected by computing systems, software and services — it will be possible to hear the heartbeat of the earth, impacting human interaction with the globe as profoundly as the internet has revolutionized communications.

Peter Hartwell,
Senior Director for Advanced Technology at InvenSense, Inc.,
former Director of Motion Sensing at Apple and Senior Researcher at Hewlett-Packard Labs

Dear Readers,

2018 has special importance for the Schnellecke Group. By this I do not just mean the gratifying business development but also the revision Schnellecke Logistics' Mission and Vision statement as well as the start of a new strategic program for the coming years,, which we present to you in this issue.

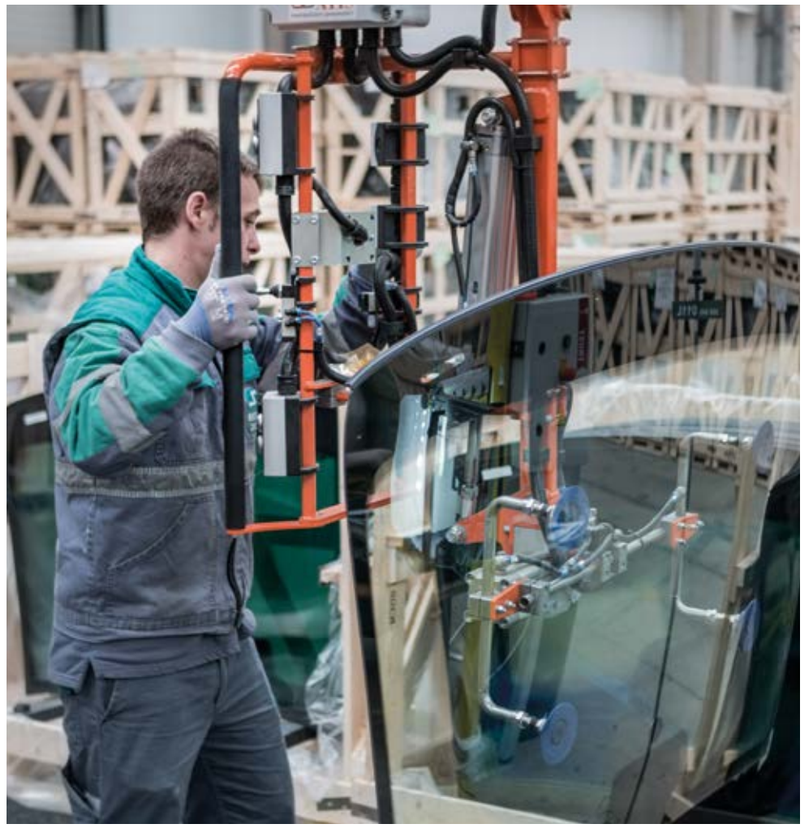
For years now, Schnellecke has been known for the practical application of technological innovations for our customers. Microsoft Kinect, Google Glass, RFID, SAP Hana Cloud, and the Internet of Things – we have transferred all of these and more into everyday logistics. Now we have again emphasized the importance of digitalization for us and our customers through its inclusion in our strategic guidelines.

We find again and again that many of the services offered by the Schnellecke Group are not known even by our customers. For this reason we would like to give you an insight into the service portfolio of our production division. KWD can look back on more than 150 years of history and today is one of the leaders in the development of new manufacturing procedures.

I hope you enjoy reading this issue.

Kind regards,

Nikolaus Külps
CEO Schnellecke Group



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VIVA

ESPAÑA!

A TRIP TO THE SCHNELLECKE GROUP'S SPANISH SITES NEAR BARCELONA AND PAMPLONA

In 1970, when the first Schnellecke truck crossed the Spanish border, no one could anticipate yet what would develop from this into in a few decades.

In the meantime, the Schnellecke Group has been established in Spain with its own companies for a long time. We visited the company sites near Barcelona and Pamplona.

Sagrada Familia, Parc Güell, Ramblas – the Catalonian capital Barcelona is a popular tourist destination. It entices you with culture, good food, and a pleasant Mediterranean climate. This is less interesting for companies than the fact that Barcelona is also an important economic center. Among others, SEAT has its main factory in Martorell just a few kilometers away.

Martorell, located in the hill country northwest of Barcelona, was already an important waypoint in Roman times. The headquarters of Schnellecke Logistics España are located here, very close to the SEAT factory, around which numerous suppliers have settled.

The Carrer Galileu gently winds its way up a hill. You can already see the giant Schnellecke warehouse building from a distance. We are greeted here by Sara Grell, the site manager, who gives us a brief overview of the history of the company site. “We started in 1994 in the Zona Franca at the Barcelona harbor,” she remembers. “We had our first branch office and our first large project there.”

Start with CKD

And that was tough. The customer was VW de México, who was supplied with SEAT models. In the beginning everything went well. From October 1994 until January 1995 the number of 40-foot containers increased from zero to fifteen or twenty per day. Half a dozen employees from Wolfsburg shared an apartment with six rooms and worked up to 16 hours every day.

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However, in the middle of January 1995, the Mexican Peso collapsed. VW de México cut its business in half, before reducing it to one quarter one week later. By the end of January it had ended completely. 180 employees were without any work. But luck was on Schnellecke's side. SEATs were to be shipped to the Philippines by the SKD procedure, and Schnellecke secured the order and ninety jobs. The CKD business also started up again slowly at the end of 1995.

That was more than 20 years ago. In the meantime Schnellecke has become an experienced partner in the CKD business, as a glance at the current situation shows. Parts for Audi and Volkswagen are packed for shipment in the buildings in Martorell.

The items to be packed are transported out of the high shelves in Incoming Goods to the packing lines where they are stowed away in long lines into the transport boxes. Subsequently, an auditing department checks random samples to see if everything has been packed correctly and completely.

Quota of women more than fulfilled

The employees in the buildings are equipped with mobile radio units so that they can be called to another job site flexibly at any time. "In the past, for example, when a forklift driver was needed somewhere there was always a lot of running around and lost time," Sara Grell explains. "With the mobile radio units today, a driver can be sent to wherever he or she is urgently needed."

A few meters further up the hill, Schnellecke has rented an additional building in which the module assemblies for the automotive supplier Borgers S.A. are carried out. Luggage compartment linings for the SEAT Leon are pre-assembled here. The raw material is inserted into a pressing machine and a mat for sound insulation is pressed onto it. And here as well a young woman is in charge – quite remarkable for the region, where Schnellecke more than fulfills the quota of women in management.

In contrast to the rest of Spain, the unemployment rate around Barcelona is extremely low. This does not make it easy to recruit new employees. That is why Schnellecke has taken a number of steps to increase the wellbeing at the workplace. "We do ten minutes of gymnastics at the beginning of each shift, for example," Grell says. "Of course as part of the working time. This keeps the employees who have a physically difficult job healthier. Furthermore, we want to introduce additional ergonomics measures this year to further reduce strains."

However, this cannot solve one problem: a generation of young people who set other priorities than previous generations. Many of them still live with their parents and do not have much existential pressure. "Our next big challenge will be to motivate this new generation," according to Grell.

Car bodies for Brazil and India

We drive further on to the MKD building in Esparraguera. The small town with over a thousand years of history is located north of Martorell. Ranges of wooded hills over which a gray veil lays on this hazy spring day rise up on both sides of the little town.

Only about a dozen people at the same time work in this enormous building. They ready car bodies and seats for shipment to Brazil or India. Nothing is assembled here, as the profit center manager Maria Angeles Rangil explains: "For MKD, the car bodies are shipped from here to various destination countries. All additional components are sourced from somewhere else or directly in the receiving country."

Rangil is a small, energetic person with a friendly face and an unusual passion: she lives in Barcelona and is a fan of Real Madrid. She has worked for Schnellecke since 1994, when the company was still located near the harbor. At that time she was in Dispatch; over the years she has taken on more responsibility step by step and has been managing the MKD building since 2013. Her credo: Management through continuous interaction with the employees. That's why she is often out and about in the building in order to be approachable at any time.

The work done here looks easy but is tough. On the one side, completely painted car bodies are delivered from Audi. After a thorough visual inspection in the light tunnel, the floor mats are put in and coupled with the vehicle by scanner. The hood is held in place by a screwing device, and two steel cross members on which they are placed onto the shipping frame are screwed on under the car body.

The car bodies are placed on a wooden trestle at a 45° angle using a lifting platform and then bolted on tightly. Four of these wooden frames fit exactly into a 40-foot ocean freight container. The frames are delivered folded up and only set up and stabilized just before the car body is placed on them.

Seats in the crate

In the small adjacent workshop, car seats are packed into wooden crates. It smells like a saw mill in here, a pleasant odor that comes from the numerous wood elements stacked along the packing pathway and out of which a completed transport crate is created step by step.

The heavy front seats are placed onto a type of pallet with an electric manipulator. Then the back and side walls are assembled. A second level is pulled in upon which the rear seats, packed in a carton, are stowed. In the end, a crate ready for shipment leaves the workshop.

Everything happens without any rush but at a steady pace. From the arrival of the seats and car bodies to their transport, the operation whirrs along like clockwork.

It is now time for us to say goodbye. We are traveling further to the second Schnellecke site in Spain – to Pamplona.

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Pamplona: Production and Pintxos

We drive about two hours from Bilbao through a spacious mountain landscape until we reach Pamplona. The city is primarily famous for the Sanfermines, the annual festivities to honor Saint Fermin, who is a son of Pamplona. However, the encierro, the running of the bulls which takes place from 7th to 14th of July in the narrow alleys of the city, is world famous: Every morning at around eight o'clock, a rocket is fired off and six bulls are let loose. In front of them, the bull runners gather in their red bandanas and sashes, trying to prove their courage by running as close to the bulls as possible.

Most people outside of Spain don't know anything else about Pamplona. However, the capital of the province, Navarra, has much more to offer than picturesque folklore and delicious pintxos, the Basque variation of tapas. Navarra is one of the most dynamic regions of Spain. Education, health, industry, research and development – Navarra is well above the national average. And is traditionally strong in the field of transport and logistics.

So it is not surprising that many well-known companies have settled in the region, among them also VW. With more than 300,000 VW Polos produced every year, the Volkswagen Pamplona factory is one of the largest Volkswagen producers and employs about 5,000 people.

A large industrial area, the Poligono Industrial Arazuri-Orcoyen, has formed in northwestern Pamplona, where numerous suppliers are grouped around Volkswagen. Schnellecke is also on the ground here with two buildings.

Of washing machines and windows

We are greeted by Juanma Legorburu and Max Dores, the one as a representative of Schnellecke, the other of KWD, which are both located here. “We are the only international Schnellecke site with logistics, production and transport,” Legorburu says with a smile. However, there is not much to be seen of Transport. Only about half a dozen schedulers under the leadership of Estibaliz Gomez conduct the approximately seventy drivers who, among others, regularly bring goods for Bosch Siemens Haushaltsgeräte from the production in Zaragoza to distribution centers in Germany with our own trucks and megatrailers. Schnellecke focuses on full truck loads in the Transport Division, i.e. transports with one complete load. With this strategy, we have been very successful in recent years and have also gained Mercedes as a customer.

Hidden from sight here in the hall are also about thirty employees who work within the factory at VW Navarra in the in-house logistics and ensure the line-feeding from there. Only in the logistics building about two hundred meters away is there something tangible for us to view. There, parts for different customers are warehoused, for example rims for GM or components for VW. CKD orders for pressing parts are also executed there. And sequencing is done. In this case, windscreens and side windows for the VW Polo.

The windows are delivered by the manufacturer in Kaluga, Russia, and packed onto sequencing racks here. The challenge in this: the side windows are delivered without barcodes or any other form of identification. The solution: the side windows to be sequenced are scanned using the latest camera technology coupled with optical character recognition (OCR). Via an OCR algorithm, the system visually signals the employee in real time during the sequencing process whether he or she has chosen the correct window. Integrated in the Schnellecke JIT System, the software processes the received rack lists and leads the employee through the process virtually error free. Just as when confirming the right window, the system supports the employees in identifying the right window for the sequence using light points on the window positions.

17 million for new robot lines

KWD is much more visible here at the site. Since 1998, welding assemblies including the left and right side members, end part, tunnel and sealing channel for the Polo for VW Navarra have been produced here on around 10,000 square meters. Just recently new robot welding lines were installed at KWD for around 17 million euros, as Max Dores explains to us. “All machines belong to us, as well as the buildings,” he stresses.

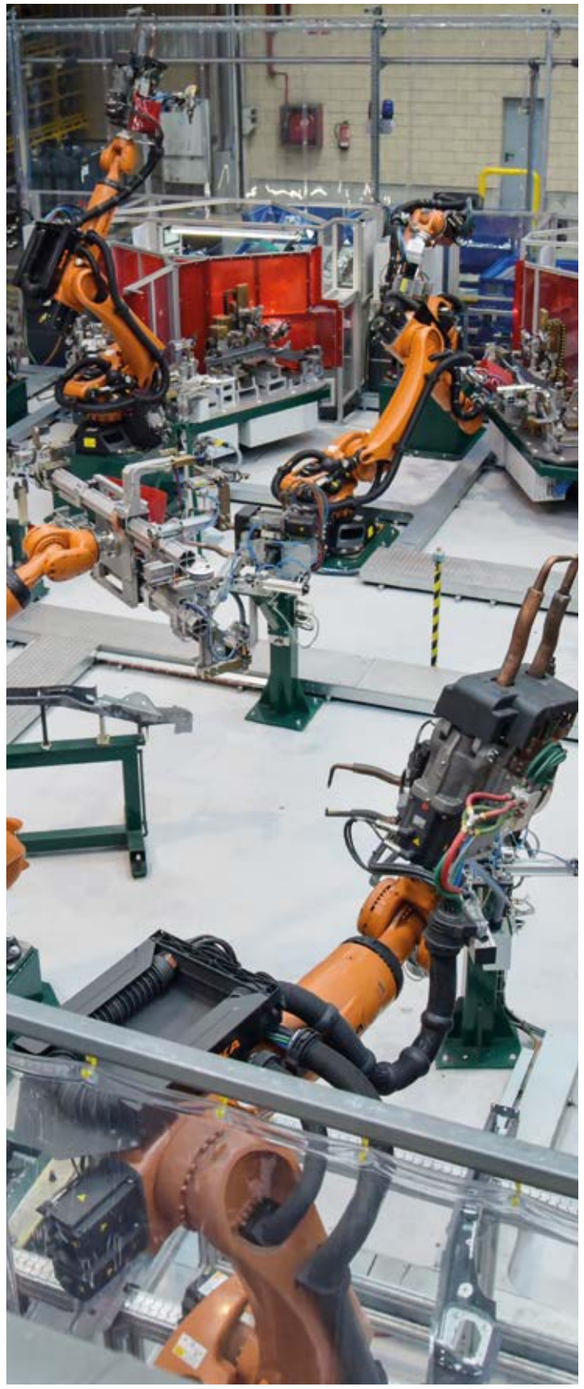
The investment was the result of an enquiry by VW Navarra as to whether KWD could significantly increase its capacities. “Other suppliers were at full capacity just like we were, so we decided on this investment,” Dores says. At the same time, it represents a foundation for the strategy of KWD to move from parts supplier to system partner of automotive manufacturers. This includes our own development as well as the assembly of individual components into complete modules.

As well as VW Navarra, Mercedes is also an important customer. “We are a tier 2 supplier for the doors of the Viano and Vito,” explains Dores, who has been at Schnellecke since 2004 and has followed the development of KWD very closely. Today he is responsible for securing new contracts at KWD as the Regional Manager of Business Development for Spain & Portugal.

Behind high protective glazing, the robot welding cells perform their work at a constant speed. Even outside of the welding cells you can still feel the heat that is generated inside them. Therefore, even though it is cool outside, the building is only heated at the workplaces where there are employees.

We have to get out of the way of the forklifts now and then as they speed through the building to bring new parts to or pick them up from the welding cells. Random samples of finished welded modules are taken out of production and inspected in the quality assurance lab.

According to Dores and Legorburu, finding employees has not yet been a problem. “On average, the employees have already been with the company for seven years.”



After a stroll through the center of Pamplona we finally visit the Café Iruna on the Plaza del Castillo, a tiled Gran Café in which time seems to have stood still. On the long bar, pintxos of all sorts are displayed, one more delicious looking than the other. Max Dores once again emphasizes KWD's goals of becoming a system partner before we say goodbye, only to meet again in Portugal a few days later.

The idea with the boxes

Integration of people with impairments

So-called CKV cases are needed for CKD shipments. The problem is that they have a relatively high volume and therefore cause high costs when delivered to the site. That is why Schnellecke decided, in coordination with the manufacturer, the Thimm Schertler GmbH, to assemble the CKV cases in Spain. The necessary material is delivered by Thimm Schertler. "This is an unusual situation," Sara Grell explains, "because this means that Thimm Schertler is both our supplier and our customer. We both had to get used to this."

Now, all packing containers needed for CKD are assembled on site. Seven employees work in a one-shift system, meaning that about 500 cases can be finished per day at full capacity.

Furthermore, Schnellecke already created jobs in this area for people with various impairments in 2012. In cooperation with a local initiative, people with impairments come to the plant in Martorell several times a week. They take on the assembly of the cartons as well as the partition inserts, the compartments in the cases.

The result is a win-win situation, since besides the successful integration of people with impairments, the costs of the packaging materials could also be lowered.

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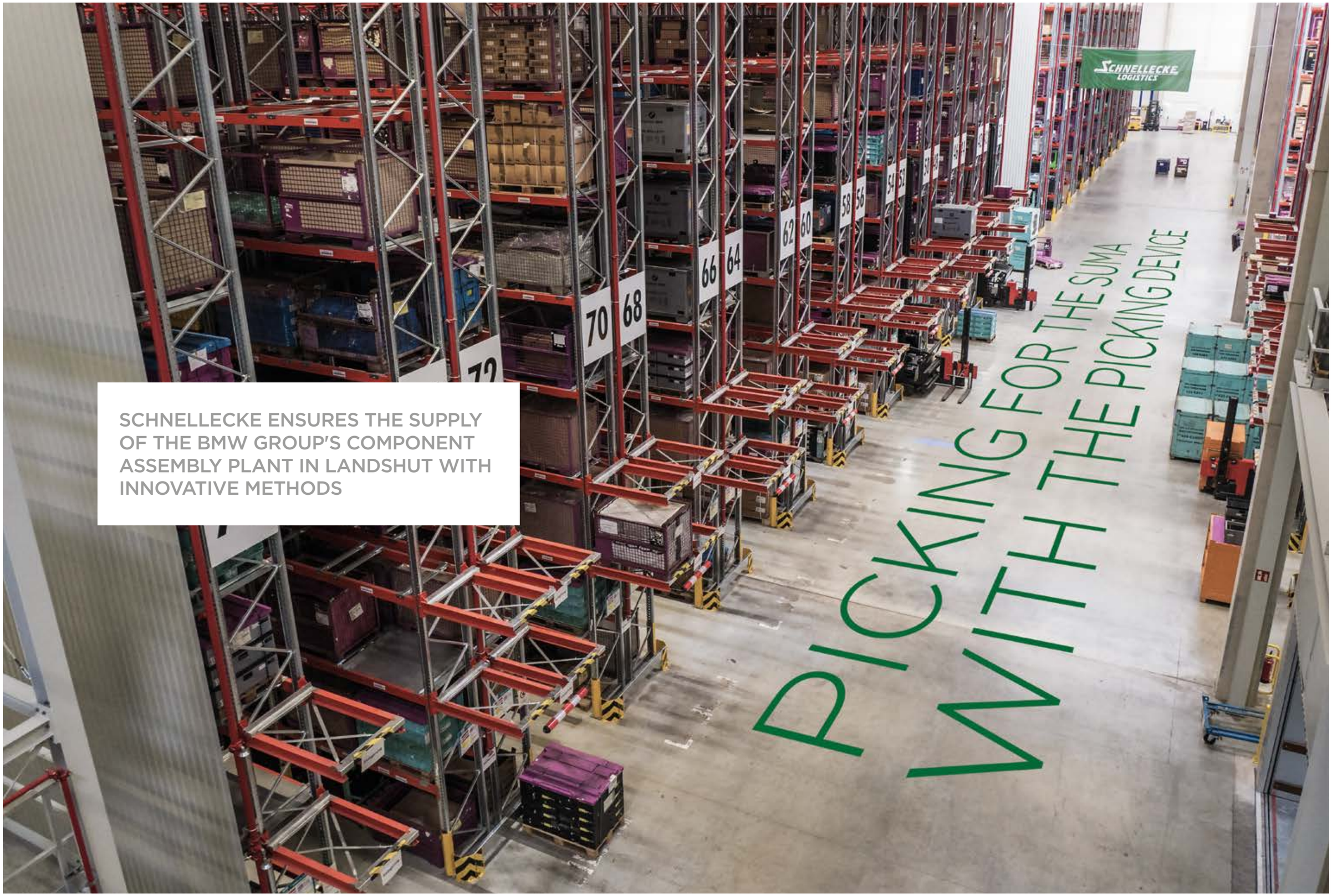
SCHNELLECKE ENSURES THE SUPPLY OF THE BMW GROUP'S COMPONENT ASSEMBLY PLANT IN LANDSHUT WITH INNOVATIVE METHODS



On the outskirts of the Lower Bavarian city of Landshut a factory complex has spread out and forms a small town of its own. It is the BMW Group's component assembly plant.

On the premises there is also a building that has been managed by Schnellecke for some time now. The production supply in the plant is ensured from here.

At BMW Group Landshut, around 4,300 employees assemble engines and chassis components of light metal castings, plastic components for the interior and exterior, as well as cardan shafts and replacement engines that are delivered worldwide to almost all car and engine plants of the BMW Group.

Just inside the entrance of Gate 5 we find ourselves in front of of the large building where Schnellecke is located. From here, the sequencing for the production is ensured. “We supply six departments of the plant: Light metal foundry, cardan shaft production, special motors, electric motors, plastic exterior and CFRP,” explains Quality Team Leader Mehmet Caglar, who leads us through the building. “For us it is like having six different customers and we make sure that each customer is treated the same.”

Emission-free south tunnel

Factory trains and trucks leave the south tunnel at short intervals, carrying the freight for the production lines. What makes this tunnel so special is that only electric vehicles are allowed to drive through it. Even the large 40-ton trucks are powered by an electric motor, which you notice at the latest when they begin to move almost silently. There are mobile charging cables on the ceiling of the tunnel that can be pulled over to the vehicle and plugged in right after it stops. “The electric motors were a suggestion by BMW Group, which we were happy to comply with and for which we can use our experience in the implementation of E-trucks,” says Peter Deutschmann, head of the Schnellecke Landshut business unit. “There were indeed a few start-up difficulties, since the vehicles being used here under real production conditions are actually prototypes, but now everything is working perfectly.”

The trucks are used for the heavy components, such as the supply of the Light metal foundry with full containers and the disposal of the empty containers. Lighter parts are taken to the assembly lines by the factory trains. Seven of these extra-long tugger trains were newly bought. They are extremely silent and emission-free, and tremendously maneuverable and directionally stable despite their length.

The complete internal traffic goes through the south tunnel. Everything that comes from outside or is delivered there goes through the north tunnel, since Schnellecke does not only deliver inside the plant but also takes on finished components and prepares them for pick-up. The trucks in the north tunnel are primarily vehicles with diesel engines.

Picking device in narrow aisles

The warehouse, with a high rack warehouse, block storage warehouse, and narrow or wide aisle warehouse, is between the two tunnels. The picking is done here, in quite a special way however. An employee on a narrow aisle picking device drives into the rack aisle and, depending on the item to be picked, rises several meters into the air until reaching the right rack. The forklift pulls the storage container with the parts out of the rack in front of the driver, who can then manual pick the items that are displayed to them by the SAP system as the current call-offs, and put them in the circulation container.

A special language is used for this. “Der Kollege pickt jetzt mit dem K-Gerät für den SUMA”, Deutschmann says in German quite matter of factly. This translates to “the co-worker is picking for the SUMA with the K-device”. K-device stands for picking forklift, SUMA for supermarket, and picking means the removal from the containers.

Forklift management by laser

All forklifts are connected to each other via a system called IdentPlus, a laser-based 3D forklift guidance system which is linked to BMW Group's SAP system. Sensors are mounted on all forklifts. Thanks to precise laser localization, the forklift drivers are led directly to all requested goods. Goods, storage locations, and destinations are automatically identified without scanning any barcodes. “This means that we have come much closer to our zero-error goal and can optimize transport orders on the basis of real forklift positions in real time,” Deutschmann explains.

A driverless transport vehicle which is also controlled by IdentPro is currently in test operation as well.

Visit to the supermarket

We are moving on to the supermarket mentioned above. Here, employees pick individual parts for specific

vehicle components into so-called carsets, which exist for the front and rear bumpers for example. The pickers are supported by an electronic guide (pick by light), and the placement into the containers in the right sequencing compartment is also controlled electronically. The carsets are compiled from of a total of more than 300 different individual parts.

The control station, the heart of all activities carried out here so to speak, is located along the side of the building. Half a dozen large monitors on the longitudinal wall give a real-time overview of the situation of the area managed by Schnellecke. The BMW Group's control station is right next to it. All systems are linked together, meaning that occurring problems can be solved jointly without any delay.

The second stage of the project has now started in which Schnellecke has taken on the supply under the projecting roofs of the plant, reports department manager Dominik Kiermeier, who is responsible for the task. This means that more than 80 additional forklift drivers have to be employed – no easy task in a region with very low unemployment.

New approaches for the training

This is why we are using new approaches for the training of the employees in Landshut. “We realized that the job descriptions had been worded in a much too complicated way,” explains Ties Babbe, Managing Director of the Landshut and Dingolfing Schnellecke sites. “That is why we are now using a concept called TWI – train within industry. First, the up to 6-page job descriptions were broken down into individual steps with three questions: What am I doing? What is important in this step? Why am I doing this?”

Each new employee who drives a forklift takes part in the training. They are trained according to the TWI principles by two coaches specially qualified for this. For this purpose, BMW Group has provided a building and yard about one kilometer away. Schnellecke rented a trailer and two forklifts for the training. Different layouts can be set up easily inside the building to simulate real everyday operating conditions.

The eight forklift drivers are standing in the first spring sun watching the coach as he demonstrates the unloading of pallet cages filled with cast metal parts. Then each of them has their turn to repeat the task three times in a row while repeating the three points each time. “By repeating the task and watching the others, the particular work step becomes second nature,” says Sebastian Gieler, Personnel and Organizational Development Senior Consultant, who is responsible for this training course and afterwards also for those at the other Bavarian sites. “And it also shows the employees that we value them and set great store in their qualification.”

The electric motors were a suggestion by BMW Group, which we were happy to comply with and for which we can use our experience in the implementation of E-trucks

BOXES ON COURSE

IN A PILOT PROJECT, CONTAINERS ARE EQUIPPED WITH TRANSMITTERS AND CAN THEREFORE BE LOCATED AT ANY TIME

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When logistics is talked or written about, then the topic of “containers” is usually only mentioned incidentally, if at all.

However, logistics is inconceivable without transport containers.

At Schnellecke, containers that can automatically report where they are currently located have been in use this year for the first time.

Reusable transport containers, as they are frequently used in the industry, are expensive and represent a not insignificant cost factor. That is why companies are interested in using these containers as effectively as possible to reduce losses. Damages in the hundreds of millions occur each year due to the seemingly traceless disappearance of containers.

With the launch of the first internet of things (IoT) pilot projects, Schnellecke has now taken an important strategic step in only a three-month project term in the framework of the digitalization of logistics processes. “We are now able to exactly determine the location of containers in a project for our customer and therefore optimize the transports,” reported Denis Wirries, who managed the project at Schnellecke.

The recording of containers at different stations of a multiple-use system is not new. However, it is usually carried out decentrally and on site. Outgoing Goods records the number of containers and the receiver, Incoming Goods does the same at the destination. The data is often kept manually on paper. Even though each user in a multiple-use system keeps their own accounts about the container circulation, this is often not done simultaneously but only synchronized at specified intervals. Due to different systems, the data is even often still exchanged by telephone or email. This not only means that errors are bound to happen, the entire process also takes a lot of time.

Containers are live on air

“We have equipped the containers with smart transmitters, so-called beacons, that transmit their location in short intervals,” Wirries said, explaining the principle used by Schnellecke. “In this way, we can track the JIS containers continuously on their route from Picking to the customer’s assembly line.”

In the past there were repeated situations in which the customer ran out of containers and requested new ones from Schnellecke. This led to a time-consuming search for the possible locations of unused containers on the customer’s premises. Container circulation planning in real time was not possible in that way.

This is now a thing of the past. The beacons attached to the containers transmit their location information to IPS (indoor positioning system)

gateways that are located along the path of the containers. All movements are transmitted online, assessed in real time, and subsequently sent to Schnellecke's SAP Cloud platform. There they are saved and processed. The exact (GPS) position is not relevant for this but rather being in a pre-defined zone in which the containers sign themselves in or out.

For this, the premises at Schnellecke and the customer were divided into **five zones:**

ZONE I
includes incoming goods, the picking zone, and the goods empties area at Schnellecke.

ZONE II
is the customer's delivery building, including interim storage areas.

ZONE III
consists of the goods preparation area, which is divided into three modules with storage and interim storage areas.

ZONE IV
includes the production of the units, also with three modules and corresponding storage and interim storage areas.

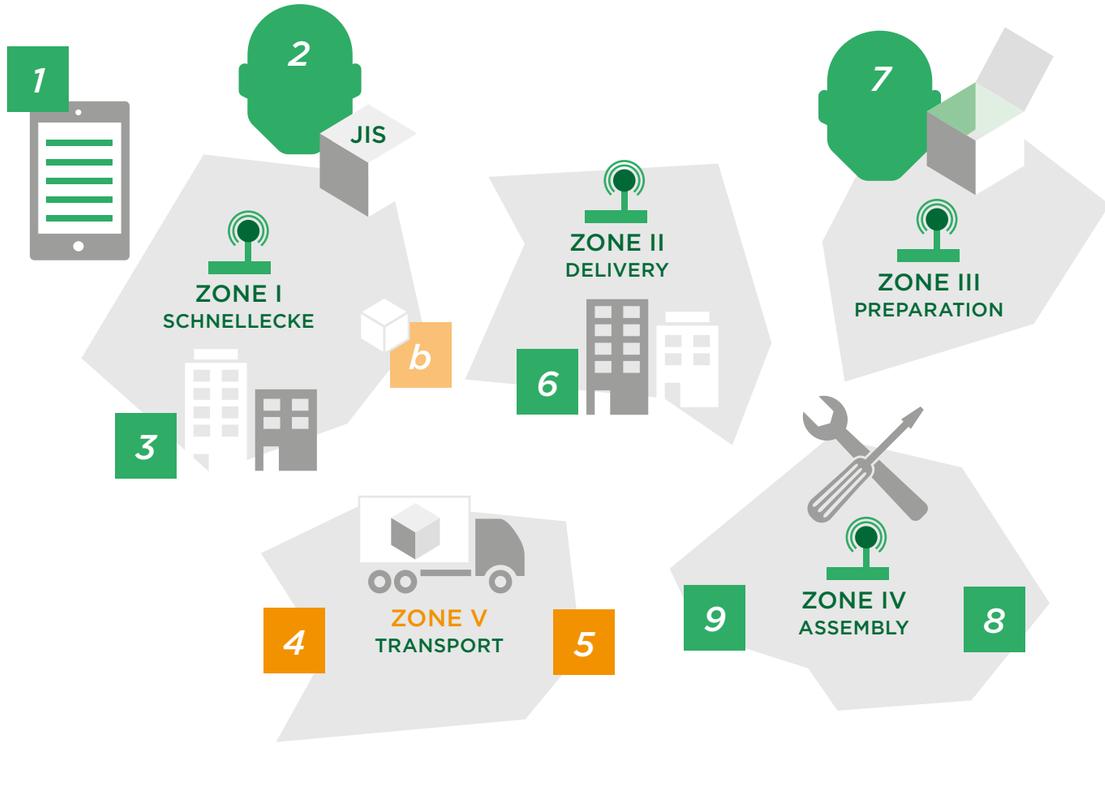
VIRTUAL TRANSPORT ZONE V
A zone for the transport between Schnellecke and the customer, which is currently still being calculated automatically by the system but in the future will actively track the containers over the entire transport route.

The order data from the Schnellecke JIT System is also transmitted to the cloud and linked to the existing container locations, allowing for the real-time tracking of the progress of the processing status of the orders and containers – not only by Schnellecke but also by the customer, who also uses the system.

Redesign of existing processes

The advantages are clear: As well as the time-consuming search for containers, the manual registration by the drivers at Incoming Goods is also eliminated. An overview of the locations of containers at the customer's plant is available at all times, meaning that the customer can also react better to foreseeable shortages.

"This project lays the foundation for our strategic goal of digitalization and automation of the processes by enabling us to digitally trace movements," stressed Dr. Abaid Goda, who heads Corporate IT Operations at Schnellecke. "The knowledge gained allows us to redesign and optimize existing processes. The solution with the beacons can, for example, be used everywhere quickly and does not need any fixed infrastructure."



THE PROCESS IN PRACTICE – OVERVIEW

1 Sequence call-off by the customer. The sequence call-off communicates which goods in which order are needed. The call-offs are generally sent in a fixed cycle whether or not the customer's production has already processed the delivered goods.

2 Then Schnellecke's employees start to fill the JIS containers.

3 The container is then parked next to the picking zone and stays there until the next transport window.

4
a A truck comes to the zone at regular intervals where the waiting JIS containers are then loaded.
b The truck also regularly brings back empty JIS containers. These are unloaded beforehand and also parked in the picking zone area. These empty containers are then refilled with new JIT call-offs by Schnellecke employees.

5
a The truck with the filled JIS containers drives to the customer and is unloaded there in Zone 2. The containers are initially parked in this building.
b Empty containers are again loaded onto the truck.

6 The customer's employees take the containers to the preliminary production lines in irregular intervals or upon demand.

7 Then the goods are removed from the compartments and processed here. The finished parts are then put back into the compartments.

8 Each of the containers prepared in this way is then brought to the actual production lines. There, the finished parts are removed from the containers and assembled to complete units.

9 The empty containers are parked near the production line and brought back to Zone 2 in irregular intervals.

FROM DRESDEN TO THE WORLD

KWD HAS BEEN MANUFACTURING COMPONENTS
FOR SAFER MOBILITY FOR 154 YEARS

In Radeberg, only a few kilometers away from Dresden, one hardly notices anything of the activity that distinguishes the nearby state capital. Around the authentically restored market place, life proceeds at a leisurely pace. However, the calm is deceptive.

Only one kilometer away as the crow flies, gigantic presses stamp every few minutes around the clock in order to manufacture components for the automotive industry.

Due to the order situation, we work in a four-shift operation at our core facilities," factory manager Mirko Schmidt explains to us. Around 600 employees in Radeberg make sure that the automotive industry receives numerous, often safety-critical, components for a multitude of vehicles. Floor modules, side parts, longitudinal and cross members, brackets – KWD manufactures all of these and more.

More than 12 million components and modules leave the factory per month, packed in about 110,000 transport containers. A large part of these go directly to the automotive customers, a smaller part goes to the international KWD sites, where they are welded together into modules.

The large presses sink with a pressure of up to 2,000 tons onto the steel or aluminum material to be formed. The enormous forces are controlled exactly, from stamping pressure to forming speed, because the components that are manufactured here depend on absolute precision in a range of one tenth.

Tools that are not necessary at the moment are piled up in one part of the main building. And when we talk about tools here, then it does not have anything to do with hand tools that everyone knows. Rather they are almost always heavy forming tools weighing several tons, often many meters long and wide and about a meter thick, which are used in the enormous presses in order to form the parts in compliance with the drawings.

The tools are made by specialist companies according to the specifications of KWD. Nevertheless, the company maintains its own tool making department. Why? "We repair small damages on the tools ourselves," explains training manager Eric Steidl, who guides us through the buildings. Accordingly, only specialists work here and, since they have to be available at any time if there is a problem with one of the tools, they work in a flexible three-shift operation.

As a visitor you can quickly get lost in the large buildings. It is a bit less busy

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in the annexed administration wing, where we meet the next people to talk to about the topics of innovation and staff.

“We want to help shape the development”

Innovation – that is a major topic at KWD. It is part of the company’s DNA, so to speak, as Dr. Jens Ullrich, development manager, explains. “Metal has been used in the automotive industry for so long for a good reason,” he says. “Metals have many fascinating characteristics. In order to make good use of them, you need all sorts of knowhow.”

The type of alloying, manufacturing process, and heating have to be matched precisely. “There are a series of parameters that you have to take into consideration,” according to Ullrich. “For example, how do I design door impact beams in such a way that they don’t pass on the impact forces but rather absorb them? How do I optimize roof trusses or dashboard supports in such a way that they support the car body optimally by providing additional stiffness? How can I apply lightweight construction concepts to solve the task at hand with different metals?” These are the issues that the development engineers at KWD investigate. Because, as Ullrich stresses, “our goal is not to chase after the development but to help shape it. We do that with in-house research, but also by cooperating with scientific institutes, universities, and by participating in industry and scientific consortiums.”

As an example of KWD’s innovative performance, he mentions the procedural developments for semi-hot forming. This is needed for the forming of special aluminum alloys such as 7021 or 7075, which are as strong as steel but lighter. “It is a real challenge to work with these kinds of alloys in such a way that they comply with all automotive requirements,” Ullrich points out.

Work on alternative joining processes in multi-material design is also being done. These are becoming more and more important in car manufacturing, for example in the joining of different materials in complex car body modules in the field of body-in-white production. KWD is one of the leaders in the processing of organic sheets, i.e. fiberglass and/or carbon fiber reinforced plastics. Here, the company is working on a process for the forming of organic sheets with the simultaneous insertion of thermoplastic resins through back compression.

There is a process already in use that in this form is highly innovative. “We are the first to be able to weld inside the tool,” Ullrich says. In order to achieve this goal, well-coordinated teamwork in various departments was necessary in order to bring several kinds of expertise into the project.

Innovation is already a topic with the apprentices. Eric Steidl shows us a tool for platinum processing that the apprentices developed, built, and brought to series production. Incidentally, this increased the number of pieces from 4 to 24 processed parts per minute. For Steidl, this

Metals have many fascinating characteristics. In order to make good use of them, you need all sorts of knowhow.

approach for job training is very important. “We want our apprentices to think in processes and understand that they contribute essentially to the development of our company with their skills, because the future of a company starts in the apprenticeship.”

Personnel strategy outside the box

The German company sites of the corporate group still have few problems finding qualified apprentices and skilled workers. But the air is getting thinner, especially for specialists. Jens Leubner, head of HR for the German KWD company sites, says, “Like all other companies, we are affected by the lack of specialists, especially in technical professions.”

Leubner’s strategy to counter this is at first confusing. “We want to increase our range of dual apprenticeship trades even further still. We have to become even more active, and in particular more effective, precisely because the job market for specialists is shrinking. Jobs such as machine and system operator, production technologist, and industrial mechanic are in demand. We are broadening our range for potential employees and strengthening our employer brand. However, that does not mean we are reducing our quality standards.” On the other hand, it is also possible “to further develop talented employees in house,” according to Leubner. “That is why we are investing in concepts of in-house further training and professional development which meet the needs of the whole of society’s change process due to digitalization.” However, it will not fail due to the working conditions, since the fluctuation rates in Radeberg as well as at the site in Wolfsburg are significantly lower than 10 per cent.

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Boom in the Czech Republic

It is not like this at every company site. One example is KWD Bohemia s.r.o. in Dobrovice, the Czech Republic, not far away from Prague. On currently 13,000 square meters of floor space, 450 employees primarily produce welding assemblies for Skoda, but also body-in-white scopes and joining technology. This makes KWD Bohemia the largest supplier for platform-relevant components for the Skoda Octavia and Karoq.

Since soon after the founding of the company, production has been running in three shifts here, recently also on the weekends. A further expansion is planned. The problem here is not the order situation or technology but the recruitment of qualified employees. Numerous suppliers have settled around the Skoda factory in Mladá Boleslav, and the job market is large.Especially young people very rarely have a firm commitment to a company. If they can earn a few euros more somewhere else, then they are quickly willing to change jobs.

KWD Bohemia continuously invests in the company site. 16 welding facilities were purchased only for the Skoda Octavia and Polaris projects, and a new online roll-forming facility was set up. Today, KWD Bohemia produces 20 million welding assemblies, which are delivered just-in-sequence to the production lines at Skoda and other customers.

Spain: Growth with VW and Mercedes

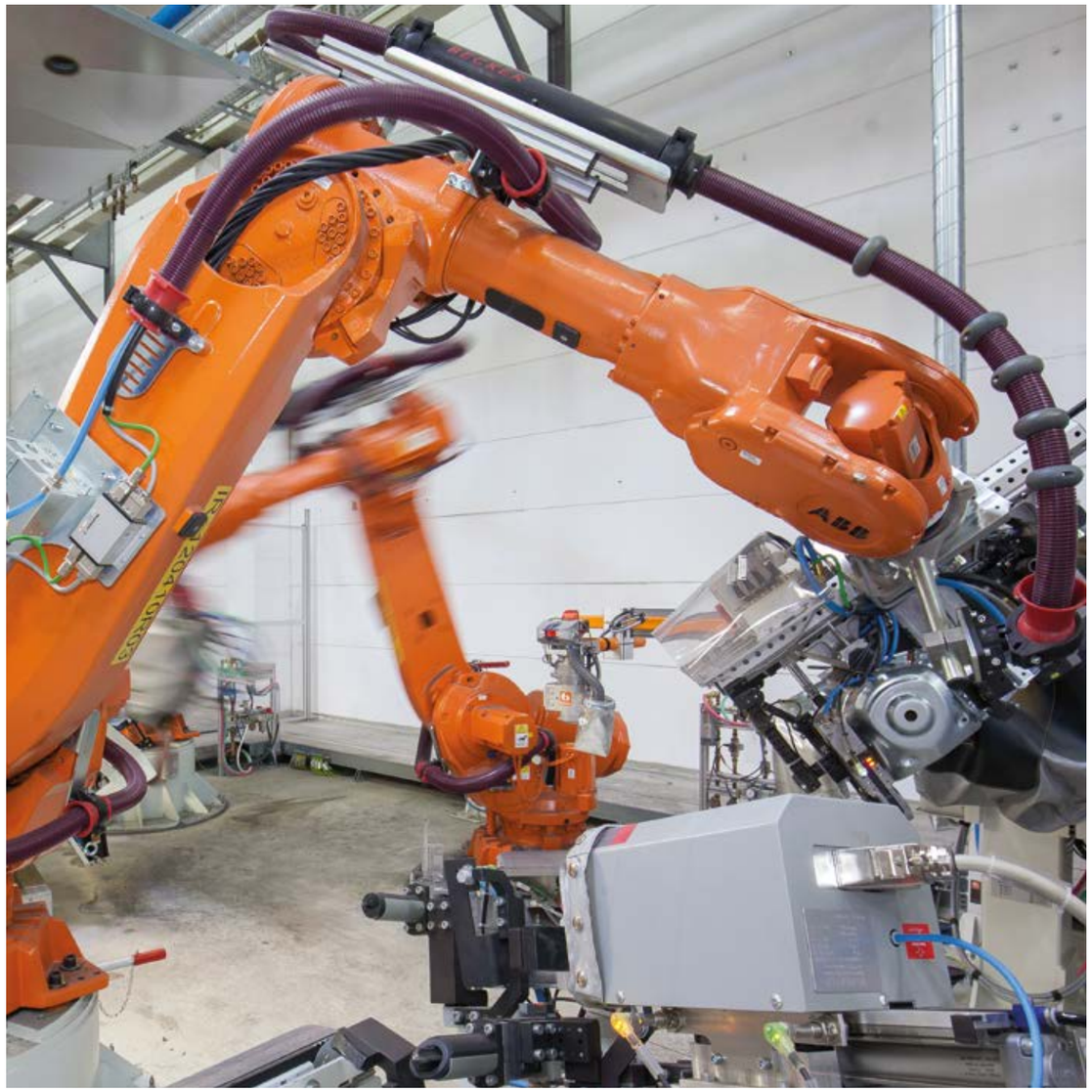
17 million euros was also just invested in new robot welding lines at the Pamplona site due to the high demand for components for the new VW Polo. Mercedes is indirectly another customer. KWD España produces door elements for a tier 1 supplier for the Vito and Viano here.

Portugal: Expansion of the production

Palmela, about half an hour drive from Lisbon, is the location of VW Autoeuropa and numerous other industrial companies. KWD established a company site there already in 2000. Since then, almost 200 employees produce roll forming, stretch bending, and welding assemblies on over 10,000 square meters of space for VW, Ford and Mercedes. Due to the high demand for the VW T-Roc, the production at KWD Portugal is currently also ramping up and new machines are being invested in.

China: Successful joint venture

KWD has an additional site in China as well. The Dalian KWD Innovation Automotive Parts Ltd. (DKIA) joint venture with the Chinese company Dalian Innovation was founded in December 2004, and production started in May 2005. DKIA focuses on two areas of production. The first one is conventional engine parts, the other is automotive parts. All parts are produced using deep drawing, stamping, bending, welding, cutting and painting. A focus of production is the deep drawing of oil pans both for passenger vehicles and for trucks.



Good prospects

So, the prospects for KWD look good? “Certainly,” nods member of the Management Board, Lothar Müller. Volkswagen has just awarded a contract for the execution of folding, bonding, and joining processes. This will be taken on by ninety new employees in a likewise new building in Wolfsburg.

“We have made ourselves a good reputation through our innovative strength and reliability,” Müller says. This is corroborated by more than 1,400 employees and more than 350 million euros annual turnover. And the signs point to growth. The changes on the automotive market also pose substantial challenges for companies such as KWD, but the company sees itself as well equipped for them.

“An essential part of our strategy in the coming years is the transformation from parts supplier to system partner,” Müller explains. “In the future we want to also be a development partner for industry and not just a manufacturer.”

It will certainly still be a hard road for us. But KWD has shown over the last 154 years that it can master such challenges.

FROM COURT CARRIAGE BUILDER TO INNOVATIVE AUTOMOTIVE SUPPLIER

In 1864, the thirty-three year-old saddler Carl Heinrich Gläser founds a workshop for the building of coaches and horse-drawn sleighs in Dresden, Germany. After only a year, due to the quality of the products, the royal stables and the royal stable offices are already regular customers. By 1903, Gläser has delivered 125 coaches and carriages and seven sleighs to the royal stable offices. Heinrich Gläser is given the predicate of “Court Carriage Builder”.

He buys the body frames for the carriages from Friedrich August Emil Heuer in Radeberg. Since Gläser does not have any children, he appoints Heuer as his successor. Heuer takes over management in 1902.

It is the time in which the car is more and more supplanting the carriage. Heuer enters into this promising business segment and starts manufacturing car bodies. It is time-consuming work, since just the painting of a car body alone takes four to six weeks because the paint dries very slowly.

The Gläser sedan quickly becomes a status symbol, especially since it has a special feature: the so-called Phaeton sedan is delivered with a removable top – what we now call a hard top. At the car fair in Berlin in 1908, Gläser presents a crank operated mechanical window lifter for which a patent is issued in 1912.

The twenties are a golden age for the Dresden-based company. The automotive industry is making enormous progress, and Gläser delivers car bodies for all large manufacturers, including Audi, Mercedes, Hansa-Lloyd, Steyr, Horch, BMW, Opel, Fiat, Ford, Buick, Cadillac and Chevrolet.

The war puts a stop to the car body builder’s success. Production at Gläser is also converted to military purposes. After the end of the war, the Soviet Union military administration expropriates the Gläserkarosserie GmbH in October, 1945. KWD continues to build car bodies, but now for the GDR brands of IFA, Wartburg, and Trabant.

After the fall of the Berlin Wall, KWD contacts the Wilhelm Karmann GmbH in Osnabrück. A cooperation is started. KWD receives the order from Karmann to build the floor assembly for the VW Golf Convertible. The Volkswagen AG itself also commissions KWD to produce welding assemblies for the Scirocco, Corrado, Passat and Polo.

At the end of 1993, the Treuhand Privatization Agency withdraws as sole shareholder of the KWD and transfers the company to Schnellecke. At the time of the takeover, KWD is still active at the site in Dresden-Klotzsche, which has no future, however, due to the planned airport expansion. By 1996, the pressing plant and bodyshop have been newly built in Radeberg and the site moved. With the team of around 270 experienced body makers taken over, KWD very quickly manages to establish itself as a supplier for high quality car body parts and modules, and to win a customer base of renowned automobile manufacturers, among them VW, Porsche, Audi and Daimler.

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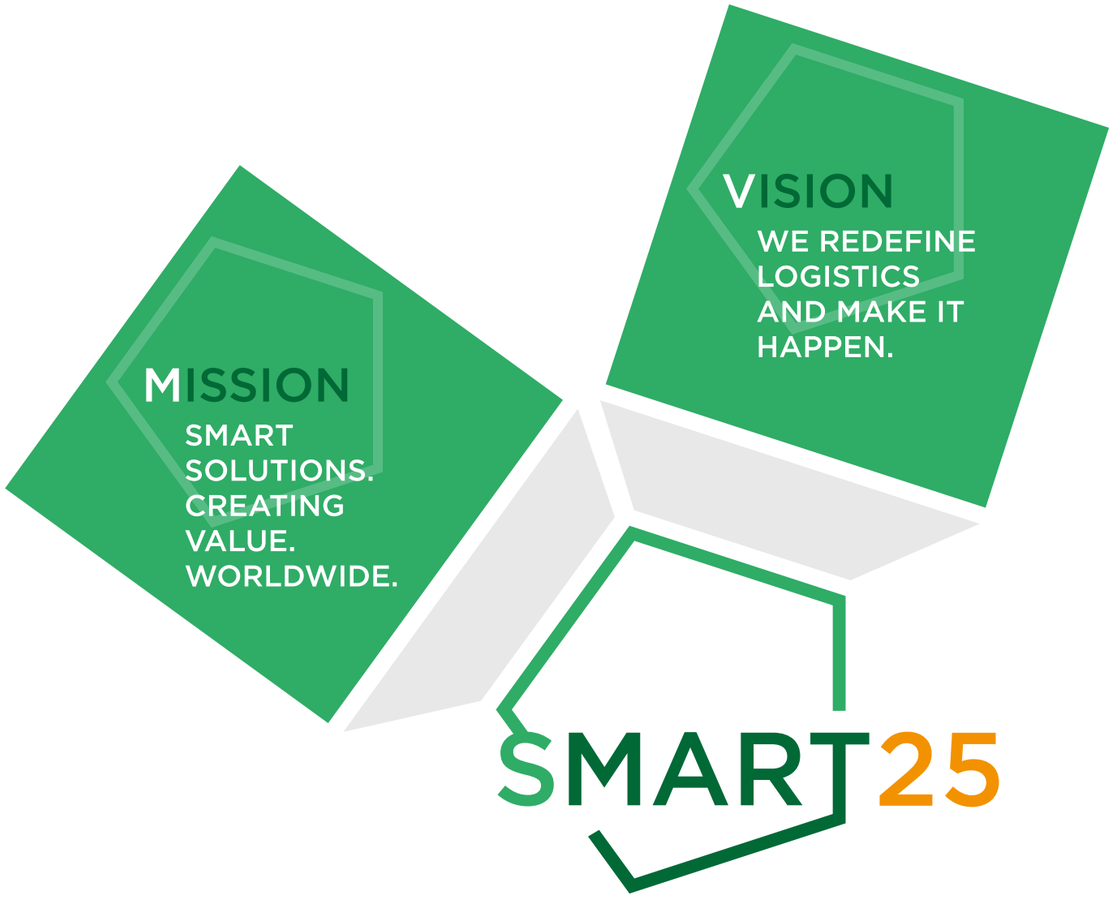

“WE WANT TO BECOME A LEADER IN THE DEVELOPMENT OF NEW DIGITAL BUSINESS FIELDS”

INTERVIEW WITH SVEN VIRGENS ABOUT THE REFORMULATED MISSION AND VISION STATEMENTS, AS WELL AS THE SCHNELLECKE LOGISTICS STRATEGY

2018 is not only continuing the success story of the Schnellecke Group but is also significant for another reason: The Schnellecke Logistics Vision and Mission statements were revised and a long-term strategy until 2025 was defined.

Its name: SMART25.

Sven Virgens, Head of the Schnellecke Group’s Strategic Management Office (SMO), outlines details and background information.

Mr. Virgens, let’s first talk about the Mission and Vision statements. What has changed and why?

Sven Virgens: Maybe we should start with a definition of Vision and Mission since that is often understood very differently. For Schnellecke Logistics the Mission statement describes why we exist at all and what we do. The Mission statement defines, as it were, Schnellecke Logistics’ right to exist on the market. It describes the here and now.

On the other hand, the Vision statement describes in an inspired way the situation that we want to achieve in the future. It is the desired result of a change program and therefore serves as the long-term orientation for our business policy and strategy.

The revision was necessary because the environment and markets in which we operate are changing rapidly and we need clear guardrails for the coming years. That is why we have in recent years conducted customer surveys, talked to external experts, analyzed technological and social developments, and carried out numerous workshops at the end of which are now the new Mission and Vision statements.

And they are?

SV: Our Mission statement is “Smart Solutions. Creating Value. Worldwide.” This means specifically: We offer the best logistics solutions on the market in order for our customers to be able to achieve great products. In this respect, we are enablers who help our customers realize their goals and be successful. Up to now we have primarily done this by optimizing complex supply chains and therefore creating value for our customers. In the future this could also include services that go beyond this.

Our Vision statement is “We redefine logistics and make it happen.” That is of course a higher ambition on whose realization we are working intensely. We strive to develop innovative digital logistics solutions for our customers such as we have, for example, already implemented with Google Glass and the Internet of Things. And we want to be a leader in the development of new digital business fields. In this direction we have also taken the first steps.

Now these are normative guardrails, but not yet a strategy. You have stipulated that elsewhere …

SV: Right, strategy indeed consists of a triad of goals, initiatives and the resources made available for its implementation. Every company needs a strategy if it wants to be successful in the long term. A company that solely reacts to events on the market has to continuously change its behavior. However, with a clear strategy, a company can be proactive on the market and help shape it through its strategy.

Medium term strategic programs are nothing new for Schnellecke. In the beginning it was called WIR (German for “we”) which stood for Wachstum (growth), Innovation, and Rentabilität (profitability). Then, BEST 2020 followed in 2010. With this, we wanted to create a foundation for operative excellence. This step was very important for the improvement of our performance at the time, because the global financial crisis had of course also affected our company. After this goal had been

achieved, we expanded BEST 2020 beyond this task to include essential strategic topics and therefore implemented a holistic strategic process on all levels. SMART25 is now its successor.

Why this name?

SV: SMART25 can be an acronym for a whole series of statements. You can interpret it both as “Schnellecke Market Targets 2025” and “Smart Mobilization of All Resources for Tomorrow”. However, SMART25 primarily expresses one thing: Our strategy has to be smarter on all levels, i.e. more intelligent, quicker, and more innovative than our competitors.

The name BEST 2020 conveys the message that the program will continue for two more years. Why the change already?

SV: The environment, technologies and customer expectations have changed massively in recent years. We want and have to react to this. Digitalization and sustainability will be much more in the focus in the new strategy than before. Furthermore, we are saying goodbye to being exclusively focused on the automotive industry. We are already working globally for quite a number of customers from other industries. This was also to be reflected in the new strategy.Apart from that, there are many similarities between BEST 2020 and SMART25. Both strategies are based on the navigation model for strategic corporate governance according to Gälweiler, and both employ the identical strategic process. The strategic goals will continue to be defined in the form of five success factors in so-called “goal houses”. There are such goal houses for the corporate divisions of Schnellecke Logistics and KWD. A further substantiation and operationalization will then take place via the goal houses for each region and business unit. The corporate divisions also have their own goal houses. Therefore, the system stretches over all levels of our company and gives the employees clear goals. The BEST 2020 initiative program will of course not be terminated but will continue to run until its completion as planned, while we develop new initiatives which will directly succeed it and contribute to our long-term goals for 2025.

What are the five success factors that you mentioned?

SV: Market Position describes our position on the market. In order to maintain and strengthen this, we have to continuously develop our products in order to take changing customer requirements into account, we have to develop on the geographic

SMART25

MISSION

SMART SOLUTIONS. CREATING VALUE. WORLDWIDE.

- We offer the best logistics solutions enabling customers to realize incredible products.
- We optimize complex supply chains, creating value for our customers.

VISION

WE REDEFINE LOGISTICS AND MAKE IT HAPPEN.

- We are committed to innovative digital logistics solutions for our customers.
- We are pioneers in opening up new digital business opportunities.

markets that offer us the best opportunities, and we have to diversify our customer portfolio in order to create more balance. Innovation Performance includes goals for the optimization and automation of our processes and for the development of new business models focusing on digitalization. Productivity & Efficiency speaks for itself: We move in markets where every cent is hard fought for. Money can only be earned here by those who work extremely efficiently. We can only offer Attractiveness for Good People if they have the freedom for personal development and are satisfied with their work. Especially the managers on all levels must also come into play here. Finally, Profitability is the foundation of everything, because without profits we would not be in the position to implement our strategy. The surpluses are required for necessary investments, for example in infrastructure, personnel development, new technologies, but also for reserves. That is why we don’t just have to maintain our profitability but also improve it so that we are equipped for the risks of the future. And all of this also under the consideration of sustainability, which plays a big role for us as a family-owned company. This is why we have developed KPIs for economic, ecologic and social sustainability and will systematically track these.

Now, as we know, writing it down is one thing. How do you make sure that all employees around the world will support this strategy?

SV: As with BEST 2020, we have also planned a gradual rollout of SMART25 through all regions, company sites and corporate divisions, in other words an internal campaign. It will start in autumn and will involve the entire set of communication tools, from training materials, to roll-ups and videos, to examples of best practices. There will be Change Agents at all company sites who will promote the process locally, as well as the managers of course. In this way, we will ensure that all employees are reached.

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